CLAIMS

I claim:

1.   A two-way data communication system for communication between a computer and a two-way data communication device selected from a group consisting of a cellular telephone, a two-way pager, and a telephone, said two-way data communication system comprising:

a two-way data communication network;

a server computer comprising:

a two-way data communication interface module coupled to said two-way data communication network; and

a server coupled to said two-way data communication interface module;

wherein said server receives a message including a resource locator from said two-way data communication network, and said resource locator includes an address of said server;

said server processes said message using said resource locator; and

said server transmits a response to said message over said two-way data communication network;

a two-way data communication device coupled to said two-way data communication network wherein said two-way data communication device is selected from the group consisting of a cellular telephone, a two-way pager, and a telephone, and further wherein said two-way data communication device further comprises:

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a network interface module coupled to said two-way data communication network; and

an client module coupled to said network interface module;

wherein said client module transmits said message including said resource locator to said server over said two-way data communication network; and

said client module processes said response to said message from said server wherein said response includes information for user interaction over said two-way data communication network.

2.   A two-way data communication system as in Claim 1 wherein said client module further comprises an interpreter wherein said interpreter generates a user interface using information in said response, and said user interface includes at least one user data input option associated with a resource locator.

3.   A two-way data communication system as in Claim 2 wherein said resource locator associated with said at least one user data input option addresses an object on said server computer.

4.   A two-way data communication system as in Claim 2 wherein said resource locator associated with said at least one user data input option addresses an object on another server computer coupled to said two-way data communication network.

5.   A two-way data communication system as in Claim 1 wherein said interpreter includes a plurality of managers including a user interface manager coupled

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to a display of said two-way data communication device wherein said user interface manager handles interactions with said display.

6. A two-way data communication system as in Claim 5 wherein said user interface manager is coupled to a keypad of said two-way data communication device and further wherein said user interface manager handles interactions with said keypad.

7. A two-way data communication system as in Claim 6 wherein upon input of data from said keypad, said interpreter generates another message including another resource locator wherein said another resource locator includes said address of said server and said input data.

8. A two-way data communication system as in Claim 7 wherein said another resource locator including said address of said server and said input data comprises a uniform resource locator.

9. A two-way data communication system as in Claim 1 wherein said response includes a plurality of resource locators and at least one of said plurality of resource locators includes an address to another server coupled to said communication network.

10. A two-way data communication system as in Claim 1 wherein said server is a stateless server and upon said server completing transmission of said response, said server completes all processing of said request and retains no state information for said response.

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11. A two-way data communication system as in Claim 1 wherein upon said server completing transmission of said response, said server maintains state information concerning said message wherein said server utilizes said state information concerning said message in response to another message from said two-way data communication device.

12. A two-way data communication system as in Claim 1 wherein said two-way data communication device further comprises:

  a memory; and

  a resource locator stored in said memory.

13. A two-way data communication system as in Claim 1 wherein said server computer further comprises:

  a memory; and

  at least one common gateway interface program stored in said memory.

14. A two-way data communication system as in Claim 1 wherein said server computer further comprises:

  a memory; and

  at least one card deck stored in said memory.

15. A two-way data communication system as in Claim 14 wherein said at least one card deck includes a display card.

16. A two-way data communication system as in Claim 14 wherein said at least one card deck includes a choice card.

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17. A two-way data communication system as in Claim 14 wherein said at least one card deck includes an entry card.

18. A two-way data communication system as in Claim 1 wherein said client module further comprises a predictive text entry module.

19. A two-way data communication system as in Claim 1 wherein said two-way data communication device further comprises:

a keypad having a plurality of keys; and

a keypad module coupled to said keypad and to said client module

wherein upon a user pressing a key in said plurality of keys, said keypad module stores information identifying the pressed key in a memory; and

said keypad module notifies said client module of said key press.

20. A two-way data communication system as in Claim 19 wherein said client module further comprises a predictive data entry module, wherein said client module uses said predictive data entry module to process said stored information identifying the pressed key upon said client module receiving said notification of said key press.

21. A two-way data communication system as in Claim 19 wherein said two-way data communication device further comprises:

a card deck stored in said memory of said two-way data communication device.

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22. A two-way data communication system as in Claim 21 wherein said at least one card deck includes a display card.

23. A two-way data communication system as in Claim 21 wherein said at least one card deck includes a choice card.

24. A two-way data communication system as in Claim 21 wherein said at least one card deck includes an entry card.

25. A two-way data communication system as in Claim 1 wherein said two-way data communication device further comprises:
a display; and
a display module coupled to said display and to said client module wherein said display module drives said display in response to user interface information from said client module.

26. A two-way data communication system as in Claim 19 wherein said two-way data communication device further comprises:
a display; and
a display module coupled to said display and to said client module wherein said display module drives said display in response to user interface information from said client module.

27. A two-way data communication system as in Claim 1 wherein said two-way data communication device is said cellular telephone.

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28. A two-way data communication system as in Claim 1 wherein said two-way data communication device is said two-way pager.

29. A two-way data communication system as in Claim 1 wherein said two-way data communication device is said telephone.

30. A two-way data communication system for communication between a server computer and a cellular telephone, said two-way data communication system comprising:

a data capable cellular telephone communication network;

a server computer comprising:

a two-way data communication interface module coupled to said data capable cellular telephone communication network; and

a server coupled to said two-way data communication interface module;

wherein said server receives a message including a resource locator from said data capable cellular telephone communication network wherein said resource locator includes an address of said server;

said server processes said message using said resource locator; and

said server transmits a response to said message over said data capable cellular telephone communication network;

a cellular telephone coupled to said data capable cellular telephone communication network wherein said cellular_telephone further comprises:

a network interface module coupled to said data capable cellular telephone communication network; and

an client module coupled to said network interface module;

wherein said client module transmits said message including said resource locator to said server over said data capable cellular telephone communication network; and

said client module processes said response to said message from said server wherein said response includes information for user interaction over said data capable cellular telephone communication network.

31. A two-way data communication system as in Claim 30 wherein said client module further comprises an interpreter wherein said interpreter generates a user interface using information in said response and further wherein said interface includes at least one user data input option associated with a resource locator.

32. A two-way data communication system as in Claim 31 wherein said resource locator associated with said user data input option addresses an object on said server computer.

33. A two-way data communication system as in Claim 31 wherein said resource locator associated with said user data input option addresses an object on another server computer coupled to said data capable cellular telephone communication network.

34. A two-way data communication system as in Claim 30 wherein said interpreter includes a plurality of managers including a user interface manager coupled to a display of said cellular telephone wherein said user interface manager handles interactions with said display.

35. A two-way data communication system as in Claim 34 wherein said user interface manager is coupled to a keypad of said cellular telephone and further wherein said user interface manager handles interactions with said keypad.

36. A two-way data communication system as in Claim 35 wherein upon input of data from said keypad, said interpreter generates another message including another resource locator wherein said another resource locator includes said address of said server and said input data.

37. A two-way data communication system as in Claim 36 wherein said another resource locator including said address of said server and said input data comprises a uniform resource locator.

38. A two-way data communication system as in Claim 30 wherein said response includes a plurality of resource locators and at least one of said plurality of resource locators includes an address to another server coupled to said communication network.

39. A two-way data communication system as in Claim 30 wherein said server is a stateless server and upon said server completing transmission of said response, said server completes all processing of said

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request and retains no state information for said
response.

40.   A two-way data communication system as in
Claim 30 wherein upon said server completing
transmission of said response, said server maintains
state information concerning said message wherein said
server utilizes said state information concerning said
message in response to another message from said
cellular telephone.

41.   A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer
comprising:

        generating a message by a client module in
    response to data entered by said user of a two-way
    data communication device coupled to a two-way
    data communication network,

            wherein said client module executes on a
        microcontroller of said two-way data
        communication device;
            said message includes a resource
        locator; and
            said two-way data communication device
        is selected from a group consisting of a
        cellular telephone, a two-way pager, and a
        telephone
        transmitting said message over said two-way
    data communication network to a server computer
    wherein said server computer is identified by said
    resource locator;
            executing an application on said server
    computer identified by said resource locator to
    generate a response to said message; and

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transmitting said response to a location
identified by said application.

42. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 41 wherein said response is transmitted to said
client module.

43. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 42 further comprising:
    interpreting said response by said client
    module and generating a user interface using
    information in said response wherein said
    interface includes at least one user data input
    option associated with a resource locator.

44. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 43 wherein said resource locator associated with
said user data input option addresses an object on said
server computer.

45. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 43 wherein said resource locator associated with
said user data input option addresses an object on
another server computer.

46. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 43 further comprising:
        interpreting a data input entry by a user of
    said two-way data communication device.

47. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 46 further comprising:
        appending said data input entry to said
    resource locator associated with said data input
    entry option.

48. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 42 wherein said response is a card deck and
further wherein said card deck includes at least one
card.

49. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 42 further comprising:
        storing said card deck stored in a memory of
    two-way communication device.

50. A method for using a two-way data
communication device, selected from a group consisting

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of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 49 further comprising:

      processing said stored card deck using said
    client module.

    51. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 50 further comprising:

      generating a display on two-way data
    communication device for each card in said card
    deck.

    52. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 51 wherein said at least one card is a display
card.

    53. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 51 wherein said at least one card is an entry
card.

    54. A method for using a two-way data
communication device, selected from a group consisting
of a cellular telephone, a two-way pager, and a
telephone, to communicate with a server computer as in
Claim 51 wherein said at least one card is a choice
card.

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